



Implementing and Assessing a Bilingual Educational Program for Hispanic Nursery Workers in Ohio.

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Abstract

The Hispanic workforce is a key component of the U.S. nursery industry and their educational needs have not been addressed. Maintaining a stable workforce is one of the major issues of the Ohio nursery industry. The objective of this project was to measure the impact of a bilingual educational program to Hispanic nursery employees containing instruction in horticulture (H) and life skills (LS), as to which the two type of trainings had greater impact. To achieve this objective, during summers 2005 and 2006, an on-site bilingual educational program for Hispanic employees was implemented in seven Ohio nurseries. Two tests the Rosenberg Self Esteem (RSS) and the Index of Family Relationship (IFR) were conducted before and after the trainings. An evaluation of the courses was also included. All the participants received the H trainings (basic anatomy and plant development, pruning and nutrition in woody plants); but only half of the participants received the training in LS contents (you and your family's needs in the U.S., social support in your community, and communications). Data was analyzed using SPSS (@2006 SPSS Inc. Chicago, Illinois). The analysis of the IFR and RSS scores indicated no detectable differences in workers behaviors compare results from before and after the program. Nevertheless, the course evaluations completed by the workers after the program provided information regarding impact. Other literature resources and findings of this study indicate, that qualitative evaluation of educational program for Hispanics rather than traditional quantitative surveys are more appropriate for program evaluations.

Introduction

According to the United States census 2000 there are 38.8 millions of Hispanics in the United States, this amount represents 13% of the total US population. Hispanics are becoming the main source of labor in many production and service industries in the US. The nursery industry is an example of this phenomenon. The nursery industry is one of the most important agricultural sectors in the US exceeding \$26 billion in value during 2002 (Hodges et al, 2005). Ohio is a major nursery production state ranking sixth nationally. In Ohio 60% of the nursery industry workforce is composed of Hispanics (Mathers, 2003). According to Sykes (1999), employers should invest time and money into employees, because employees are their biggest investment. The business rewards of training and educating Hispanic employees are many: less turnover, more motivation and productivity and upward professional development of talented Hispanic workers (Witterschein, 2000). Universities such as The Ohio State University (OSU) have recognized their educational responsibility to the community, introducing the "outreach and engagement" concept, which represents that aspect of teaching enabling learning beyond the campus walls as a service directly benefiting the public. Implementing and Assessing a Bilingual Educational Program for Hispanic Nursery Workers in Ohio, is an outreach and engagement project (OSU Cares) with two objectives: 1) to measure the impact of a bilingual educational program containing instructions in horticultural and life skill in a population of Hispanic nursery employees, and 2) to investigate which of these two types of training are more important to the stabilization of the Hispanic family unit.

Materials and Methods

During Summer 2005, an application was submitted to the OSU IRB (Institutional Review Board) to evaluate Hispanic employees from eight nurseries in Ohio. Four nurseries were located in the northern part of the state and three in the southern part of the state. The target audience for this project was Hispanics working in the Ohio nursery industry males and females, 18 years and older with nuclear families in the U.S. In each nursery an average group size of 15 Hispanic employees agreed to voluntarily participate in this program. Three horticultural topics (H) were taught, basic plant anatomy and development, pruning and nutrition in woody plants. Half of the group at each nursery received the (H) training and the other half received three life skills trainings (LS) plus H training. The three LS topics, 15 minutes each, were you and your family's needs at the U.S., social support in your community, and communications. The H trainings were 45 minutes each. One topic of LS and/or H was taught per visit. Following the IRB directions, a consent form in Spanish explaining the purpose and participants rights was signed before the program was started. Two tests were completed by the participants at the beginning of the training sessions and approximately six weeks later when the program was completed. The two tests recommended by the Ohio State University College of Social work were The Index of Family Relationship (IFR) (www.walmyr.com), consisting of 25 questions that assess a family's functioning and relations and the Rosenberg Self-Esteem Scale (RSS) (http://www.bsos.umd.edu/soc/y/grad/socpsy_roseberg.html). In addition a course evaluation was completed by each of the participants after the program was completed. A list of the participants per nursery, prior the beginning of the program was supplied by the nursery owner or manager. This list was checked every class to follow the group interest in the classes and to correlate the responses of the participants to the first and last session. It was also a way to keep confidentiality in the administration of the test, since every participant was assigned with a number in this list. IFR scores are designed to measure the severity of family relationship problems as seen by the respondent. Scores range from 0 to 100 where higher scores indicate greater amounts of family discord. On the other hand RSS scores ranges from 0-30, with 30 indicating the highest score possible, high self esteem. RSS define self-esteem as a positive or negative orientation toward oneself; an overall evaluation of one's worth or value. There are no discrete cut-off points to delineate high and low self-esteem, however for the purpose of this study, 15 was considered the clinical cut point. Scores under 15 were considered low and above 15 were considered high. Data was collected, classified and analyzed by nursery, treatment (with and without LS) and sex of the participant using SPSS (@2006 SPSS Inc. Chicago, Illinois). Only workers with before and after tests completed were included in the analysis. A paired t test was calculated over treatment (with or without LS) and nursery for IFR and RSS using total scores before and after the training. In addition Chronbach's alpha were calculated for IFR and RSS to measure reliability as values approach 1.0 they indicate greater reliability.

There were no significant differences for the IFR before and after training over nursery and treatment (with and without LS) (Table 1). We speculate that the IFR was not an appropriate test for the Hispanic audience. IFR has not been previously tested in ethnic minorities (Tutty, 1995) other than black women (Hamilton and Orme, 1990). In addition no official Spanish version had previously been tested. Another possible reason for lack of differences was because such a short period of time occurred between the beginning of the program and its completion (six weeks). IFR Chronbach's alpha was lower (0.8) before the program than after (0.86). Indicating an improvement of the test reliability post training. There were no significant differences for the RSS before and after training over nursery and treatment (with and without LS) (Table 2). RSS Chronbach's alpha was lower (0.68) before the program than after (0.7). Indicating greater reliability of the test post-training. This post test increases on reliability may indicate that after exposure to this kind of test, the audience was more comfortable with the questions and the procedure than in the pre-training tests. The course evaluations completed by the workers after the program as qualitative evaluations, help to indicate the impact of the training program. The results of three key questions are presented on Table 3.

Table 1. IFR (index of family relationship) means scores before and after the three trainings calculated and analyzed by a pair t test over treatment and nursery.

Score	Number of workers ^a	Mean ^a	Standard deviation	t	Degrees of freedom	P value two tailed
Before IFR Total	97	23.34	17.39	0.50	96	0.62
After IFR Total	97	22.36	18.75			
Difference	97	0.98	19.24			

^a Only workers who completed the three sessions and the IFR test before and after the trainings with less than 3 missing questions were considered in the analysis. ^b IFR test scores of 30 and above are indicative of problems in family relations.

Table 2. RSS (Rosenberg Self Esteem scale) means scores before and after the three trainings calculated and analyzed by a pair t test over treatment and nursery.

Score	Number of workers ^a	Mean ^a	Standard deviation	t	Degrees of freedom	P value two tailed
Before RSS Total	94	21.11	4.13	-1.10	93	0.27
After RSS Total	94	21.60	4.09			
Difference	94	-0.49	4.30			

^a Only workers who completed the three sessions and the RSS test before and after the trainings with less than 3 missing questions were considered in the analysis. ^b RSS test scores of 15 and below are indicative of low self esteem.

Table 3. Valid percentages (excluding missing cases) for answers to four questions about program effect in workers (considering all the participants who answered the course evaluation).

Phrase	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Three horticultural classes were enough to learn more about my job	5.4	23.6	12.7	32.7	25.4
I learned new things	7.2	3.6	3.6	54.54	30.9
I learned things that make me feel more competent about my job	3.6	7.2	5.4	61.8	21.8
My job attitude changed after this program	5.55	7.4	11.11	55.55	20.37

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